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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/670,455	09/26/2000	PETER POTHIER	102689-57	3618
21125	7590	03/22/2005	EXAMINER	
NUTTER MCCLENNEN & FISH LLP WORLD TRADE CENTER WEST 155 SEAPORT BOULEVARD BOSTON, MA 02210-2604			STRANGE, AARON N	
			ART UNIT	PAPER NUMBER
			2153	

DATE MAILED: 03/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/670,455

Applicant(s)

POTHIER ET AL.

Examiner

Aaron Strange

Art Unit

2153

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 October 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 September 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. Several of the drawings are objected to because they are too large or illegible. However, due to the large number of drawings, the objections will be held in abeyance until all of the claims are in condition for allowance.

Election/Restrictions

2. Newly submitted claim 26 is directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:

Claim 26 is directed to collecting statistical data about the performance of an application running on a network device and transmitting it to a usage data server. Claims 1-25 are directed to collecting statistical data about cards within a network device. These inventions are separately usable since the first one allows information to be collected about applications running on a device and the second allows information to be collected about hardware cards within the device.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claim 26 is withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Response to Arguments

3. Applicant's arguments, filed 10/12/2004, have been fully considered but they are not persuasive.

4. With regard to claim 1, and Applicant's assertion that Stevenson fails to disclose sending an acknowledgement packet indicating "a time that the server can resume sending a subsequent burst" (Remarks, Page 10, Lines 20-22), the Examiner respectfully disagrees.

Stevenson teaches both client->server and server->client transmissions using burst mode protocol. While the Examiner agrees that the client does not send an acknowledgement packet to the server upon receipt of a burst during a read request, the sections of Stevenson cited were for client->server write transmissions, in which the server replies with an acknowledgement to the client. This is analogous to the network cards (clients) sending data to the central process (server), as claimed in the present application. Therefore, Applicant's arguments regarding the failure of Stevenson to teach sending acknowledgment packets are not persuasive.

Furthermore, Stevenson discloses that a reply to write request consists of an acknowledgement or a missing fragment list (Page 55, Lines 13-19). Stevenson further discloses that the missing fragments are transmitted in response to receipt of a missing fragments list, which occurs prior to the start of another burst transaction (Page 54, Lines 22-27). Therefore, receipt of the acknowledgment packet by the client indicates that the client may begin another burst transaction, thus indicating a time (as soon as

the ACK is received indicating that all missing fragments have been delivered) that the client may resume sending packets.

5. With further regard to claim 1, and Applicant's assertion that Stevenson "does not teach or even remotely suggest utilizing its protocol for sending *statistical data* from a plurality of *cards* in a network device to a *central process* executing on that device" (Remarks, Page 10, Line 27 to Page 11, Line 6), it is noted that such limitations do not appear in the rejected claims.

Claim 1 states only that there may be one or more cards, and does not specify a plurality of cards. Claim 1 provides no explicit or implicit limitation that the central process is executing on the network device.

Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

6. With further regard to claim 1, and Applicant's assertion that Stevenson "does not teach or even remotely suggest utilizing its protocol for sending *statistical data* from a plurality of *cards* in a network device to a *central process* executing on that device" (Remarks, Page 10, Line 27 to Page 11, Line 6), Applicant has failed to consider the combination of Stevenson with the admitted prior art.

As discussed in the Office action of 4/8/2004, Applicant admitted in the

background of the present application that it is well-known to collect management data from distributed modules, such as cards, and move the data to, for example, a workstation for processing and billing integration. (Page 1, Lines 6-11 of present application). Applicant goes on to disclose that the processing applications and billing applications require different data formats, which are well-known formats. In Applicant's remarks, Applicant states that "In the background of the present application, Applicants discuss problems associated with retrieving data from distributed modules within a network device, and in no way indicate any prior art solution for these problems". The Examiner agrees that no prior art solution for the problems is disclosed, and no such assertion was made in the Office action of 4/8/2004. However, it is clear that Applicant admitted in the specification that the collection of data from distributed modules, such as cards, and moving the data to a workstation for processing is well-known in the art.

7. With regard to claim 5, and Applicant's assertion that Tanenbaum fails to teach determining when the acknowledgement should be sent, the Examiner respectfully disagrees. Tanenbaum teaches that the number of packets to be processed is determined (the number of packets in the buffer) and compared to a predetermined threshold (1 packet in the buffer). If the number of packets is less than the threshold, (buffer is empty), the acknowledgement is sent back to the sender of the packets (Page 195, Line 37 to Page 197, Line 37).

8. With further regard to claim 5, and Applicant's assertion that Stevenson and Tanenbaum are directed to protocols for sending packets between nodes in a network, and "not to managing transmission of *statistical data* from different *cards* in a network device to a *central process* executing on that device" (Remarks, Page 13, Lines 9-11), it is noted that such limitations do not appear in the rejected claims.

Claim 5 states only that there may be one or more cards, and does not specify a plurality of different cards and claim 5 provides no explicit or implicit limitation that the central process is executing on the network device. As discussed with regard to claim 1, Applicant has admitted that gathering statistical data is old and well-known in the art.

Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

9. With regard to claims 6 and 19, and Applicant's assertion that Simmons fails to teach "sending a *predetermined* number of packets from the transmitting station to the switch and generating an acknowledge upon receipt of the last packet in the predetermined number of packets" (Remarks, Page 15, Lines 9-17), it is noted that these features are taught by Stevenson in the rejection of claim 1. Applicant is reminded that one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

10. With further regard to claims 6 and 19, and Applicant's assertion that Simmons fails to teach "generating an acknowledge upon receipt of the last packet in the predetermined number of packets in which a time for resuming transmission can be included" (Remarks, Page 15, Lines 6-14) and that Simmons is not directed to "controlling data flow between cards within a network device and a central process of that network device" (Remarks, Page 15, Lines 15-17), it is noted that such limitations do not appear in the rejected claims.

Claims 1 and 6 state only that the acknowledgment packet *indicates* (emphasis added) a time, and does not state that the packet includes a time. Claims 1 and 6 provide no explicit or implicit limitation that the central process is executing on the network device.

Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

11. With regard to claim 7, and Applicant's assertion that Ramakrishnan fails to teach "transmitting a *predetermined* number of packets from a sender to a receiver followed by transmission of an acknowledgement from the receiver to the sender" (Remarks, Page 15, Line 25 to Page 16, Line 2), it is noted that this features are taught by Stevenson in the rejection of claim 1. Applicant is reminded that one cannot show nonobviousness by attacking references individually where the rejections are based on

combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

12. With regard to claims 9-11 and 13, and Applicant's assertion that in the protocol discussed by Tanenbaum "an acknowledgment sent by the receiver to the sender does *not* include a *time at which the sender can resume transmitting packets to the receiver*" (Remarks, Page 13, Lines 15-23), it is noted that such limitations do not appear in the rejected claims.

Claim 1 states only that the acknowledgment packet *indicates* (emphasis added) a time, and does not state that the packet includes a time.

Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

13. With regard to independent claim 14, Applicant's arguments are not persuasive for the reasons discussed regarding claim 1.

14. With regard to claims 21 and 22, and Applicant's assertion that the claimed subject matter is not taught by any of the cited references (Page 13, Lines 24-27), the Examiner respectfully disagrees. Applicant provides no evidence other than a general assertion that the claimed subject matter is not shown, so the arguments is not persuasive to overcome the previous rejections of claim 21 and 22. Applicant is

reminded that one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

15. With regard to claim 24, and Applicant's assertion that Stevenson fails to disclose "sending data packets at *staggered* times", Applicant has failed to consider the combination of Stevenson with Applicant's admitted prior art and Tanenbaum, which were used in the rejection of claim 24.

In particular, Tanenbaum teaches sending data packets at staggered times by requesting single variables of data from a device or entire tables. These commands are not executed simultaneously, so they occur at staggered times.

Applicant is reminded that one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Claim Rejections - 35 USC § 103

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. Claims 1 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stevenson et al. in view of Applicant's admitted prior art.

18. With regard to claim 1, Stevenson discloses a method of managing distributed statistical data retrieval in a network device, comprising: b. sending a predetermined (Page 52, Lines 17-20) number of packets from the card to the central process (a burst) (Page 54, Lines 19-21), wherein each packet contains at least a portion of the file; c. sending an acknowledge request (set End of Burst flag) to the central process in conjunction with sending the last packet in the predetermined number and (Page 54, Lines 19-21); d. controlling the number of packets sent from the card to the central process, including: sending an acknowledge packet indicating a time that the card can resume sending packets to the central process from the central process to the card (Page 55, Lines 17-18 and Page 68, Lines 31-35); and repeating steps b,c, and d when the acknowledge packet is received at the card (Multiple burst transactions may be executed) (Page 55, Lines 1-7). Stevenson et al. do not disclose the step of a. gathering statistical data on at least one card within the network device periodically or that the file transferred comprises statistical data.

The system disclosed by Stevenson is directed toward the transfer of a large file, without limitation regarding the type of file transferred. In the background of the present application, Applicant discloses that statistical data may be retrieved from distributed modules within a network device and stored in non-volatile memory. In

addition, this data may be moved to a workstation for processing (Application, Page 1, Lines 6-11). Since this data is stored in a file in non-volatile memory, and can potentially be a large amount of data, it could benefit from being transferred in the manner disclosed by Stevenson et al.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to gather statistical data on at least one card within the network device periodically and transmit the gathered statistical data to the central process using the method disclosed by Stevenson et al. since it can greatly improve the speed and efficiency of the data transfer process (Page 49, Lines 5-8).

19. With regard to claim 14, while the system disclosed by Stevenson in view of Applicant's admission shows substantial features of the claimed invention (discussed regarding claim 1), it fails to specifically disclose gathering statistical data on a plurality of cards within the network device periodically and sending the statistical data to the central process.

However, it is well-known in the art that many network devices such as routers can and usually do consist of a plurality of network cards. In most cases, the cards are attached to different network segments and can record information about those segments. It would be advantageous for the central process to be able to retrieve data from all of the cards located in a network device so that it could receive the most accurate information regarding the network segments which the device is attached to.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to allow all of the cards located within a network device to send statistics to the central process for analysis. Since each card is usually connected to a different network segment, each card can provide statistics that are not available to the other cards in the device.

20. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stevenson et al. in view of Applicant's admitted prior art in further view of Tanenbaum.

21. With regard to claim 5, while the system disclosed by Stevenson in view of Applicant's admission shows substantial features of the claimed invention (discussed above regarding claim 1), it fails to disclose that sending an acknowledge packet from the central process to the card comprises: detecting an acknowledge request at the central process in a packet received from the card; determining a number of packets to be processed by the central process; comparing the number of packets to be processed to a predetermined threshold periodically; and sending the acknowledge packet to the card from the central process when the number of packets to be processed is less than the predetermined threshold.

Tanenbaum discloses a well-known flow control method for network transmissions which allows the receiver to stop the sender from sending any more data until the receiver has enough buffer space. Since the size of the packet bursts disclosed by Stevenson et al. are known to the receiver (window size), it can easily determine if

enough space remains in the buffer. It would be logical and advantageous to delay the acknowledge packet until the buffer has enough space to hold another burst. As disclosed by Tanenbaum, delaying the acknowledgement until the receiver has time to process the packets prevents the sender from sending data faster than it can be processed by the receiver (Page 195, Line 37 to Page 196, Line 5). This prevents data from being lost due to buffer overflows.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the protocol disclosed by Stevenson in view of Applicant's admission to follow the structure taught by Tanenbaum. By delaying the acknowledge packet until the buffer is sufficiently empty to hold another burst transmission, data loss due to buffer overflow is prevented. This also reduces the load on the network since the lost data does not need to be retransmitted.

22. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stevenson et al. in view of Applicant's admitted prior art in further view of Simmons et al. (US 6,167,054).

23. With regard to claim 6, while the system disclosed by Stevenson in view of Applicant's admission shows substantial features of the claimed invention (discussed above), it fails to disclose that sending an acknowledge packet from the central process to the card comprises: detecting an acknowledge request at the central process in a packet received from the card; determining a number of packets to be processed by the

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central process; comparing the number of packets to be processed to a predetermined threshold; estimating when the number of packets to be processed will be below the predetermined threshold.

Simmons discloses a method for providing flow control for network transmissions in which the receiver's data buffer level is compared to various thresholds to determine the appropriate length of time that the sending station should stop sending data. The closer to full that the buffer is, the longer the sending station is told to wait before resuming the transfer of packets (Col 12, Lines 28-49). This ensures that the data buffer will not overflow and result in lost packets by giving the receiver time to clear out the buffers (Col 13, Lines 32-34). When the sender receives the pause frame, it stops transmitting frames for the duration of time specified in the frame (Col 1, Lines 51-54). This method of controlling the flow between the sender and receiver is advantageous since it allows flow control to be initiated before the receive buffer is full, at which time data will already have been lost. It also allows the amount of pause time to be variable which makes the throughput more efficient (Col 1, Lines 55-66).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system disclosed by Stevenson in view of Applicant's admission in view of Simmons to compare the number of packets in the buffer to a predetermined threshold, estimate when the number of packets to be processed will be below the threshold.

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24. Claims 2-4, 7-13, and 15-25 are rejected under 35 U.S.C. 103(a) for the reasons presented in the Office action of 4/8/2004, since they have not been amended except for the amendments to claims from which they depend and/or Applicant's arguments with respect to these claims are not persuasive.

Conclusion

25. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

26. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

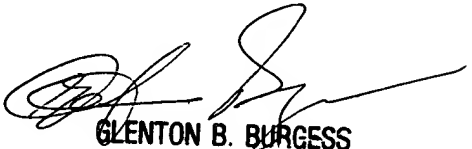
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27. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron Strange whose telephone number is 571-272-3959. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glen Burgess can be reached on 571-272-3949. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AS 3/16/2005


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